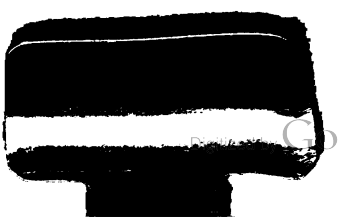
First Annual Report of the

STATE FIRE MARSHAL

To the Governor of Indiana

1913

W. E. LONGLEY, State Fire Marshal



Indiana State Fire Marshal

First Annual Report to the
Governor for 1913

INDIANAPOLIS:
WM. B. BURFORD, CONTRACTOR FOR STATE PRINTING AND BINDING
1914

THE STATE OF INDIANA,
EXECUTIVE DEPARTMENT,
February 19, 1914.

Received by the Governor, examined and referred to the Auditor of State for verfication of the financial statement.

OFFICE OF AUDITOR OF STATE,
INDIANAPOLIS, February 19, 1914.

The within report, so far as the same relates to moneys drawn from the State Treasury, has been examined and found correct.

W. H. O'BRIEN,
Auditor of State.

FEBRUARY 19, 1914.

Returned by the Auditor of State, with above certificate, and transmitted to Secretary of State for publication, upon the order of the Board of Commissioners of Public Printing and Binding.

B. B. JOHNSON,
Secretary to the Governor.

Filed in the office of the Secretary of State of the State of Indiana, February 19, 1914.

L. G. ELLINGHAM,
Secretary of State.

Received the within report and delivered to the printer February 19, 1914.

ED D. DONNELL,
Clerk Printing Board.

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*Tables follow.

LETTER OF TRANSMITTAL

DECEMBER 31, 1913.

Honorable Samuel M. Ralston, Governor:

Dear Sir.—Agreeable to Section 10 of the State Fire Marshal law, I have the pleasure of submitting for your consideration the first annual report of the work of this department.

The organization of a department of this character is attended by no small amount of anxiety. The desire to give the best return for the money expended has spurred each individual employed in this department to give the State the best possible service.

In designing the organization of the department, the following plan was adopted:

The law provides for a first and second deputy and a secretary. The department was separated into three divisions, to-wit: Inspection, placed under the supervision of Mr. John W. Minor, Jr., first deputy; Legal, placed under the supervision of Mr. Roger W. Wallace, second deputy; Statistical, placed under the supervision of Mr. Ralph E. Richman, secretary of the department. Business coming into the office of the department is assigned to the division in which it belongs, and the head of that division is responsible for the proper handling thereof. How well the heads of these divisions have acquitted themselves can be judged by a careful perusal of their respective reports made to me, giving an account of the work accomplished by them. I especially commend these reports for your consideration.

A significant fact that I desire to mention is the generous treatment accorded this department by the newspapers of Indiana in using the information of an educational nature sent out from this office. This has very materially aided my department in bringing before the citizenship of our commonwealth the objects of the department, and is, in a measure, responsible for the prompt and hearty response by the many assistants throughout the State to the duties placed upon them by the State Fire Marshal law.

The demands made upon this department have multiplied so rapidly that they can not be met promptly by the force I am able to employ with the appropriation allowed. I beg the indulgence of those who may believe they have not received as prompt response to their requests as they had hoped.

I desire to express my appreciation of the courtesies extended to my department by your Excellency and the members of your administrative family, and to acknowledge the many helpful suggestions made by them. In this connection I want to remember the great army of insurance men of our State whose co-operation has facilitated the work of this department.

Recommendations for changes in the Fire Marshal law I will transmit to you in a subsequent communication.

Sincerely,

W. E. LONGLEY,
State Fire Marshal.

REPORT OF INSPECTION DIVISION

INDIANAPOLIS, IND., December 31, 1913.

Hon. W. E. Longley, State Fire Marshal:

Dear Sir.—I beg to submit the following report of the inspection division for nine months ending December 31, 1913.

OBJECT

The object and endeavor of the inspection division is to reduce the enormous fire waste and loss in the State by the proper safeguarding of fire hazards. This work is solely one of fire prevention, not of fire fighting, and requires a large amount of educational work. This falls to the statistical division and is covered in a separate report. The work of the inspection division has not yet reached the highest degree of efficiency. It is still in a formative state. For the short time this division has been in operation, a great deal has been accomplished in securing the improvement of conditions that constitute fire hazards, and the work has met with general approval. Since statistics are not available for previous years, there is no means of making a comparison showing accurately the results accomplished.

FIRE PREVENTION

The subject of fire prevention has become a matter of scientific study and is receiving the consideration of everyone interested in the question of conservation. This division hopes through the aid of its assistants to induce the people of the State to take precautions necessary to eliminate fires due to preventable causes. The great fire waste in the State is due to poor construction of buildings, great carelessness and ignorance of the causes of fire and slight attention given by individuals to their responsibility. The public lacks proper knowledge, in general, of fire prevention methods; more attention is given to fire fighting than to fire prevention. More than sixty-five per cent. of all fires reported are the result of gross carelessness. By a thorough inspection of individual risks, this division seeks to reduce and lessen carelessness and negligence and to force the individual to use the proper precaution necessary for the reduction of the enormous fire waste.

Rear View of Dilapidated Building, 21–25 West Ohio Street, Indianapolis, Indiana, Demolished by Order of State Fire Marshal.

This division has actively co-operated with the Indiana State Fire Prevention Association, an association composed of the leading underwriters and citizens of the State, affiliated with the National Fire Protection Association, and interested in the question of the reduction of fire loss. The Association is endeavoring to educate property owners in the steps necessary to eliminate those conditions which cause the majority of the preventable fires.

With this Association I visited the cities of Bloomington and Terre Haute, where inspections were made of every building in the congested value districts of these cities. In these inspections a great many defects were found. The attention of the owner or occupant was called to such defects as were easily remedied, with a request that they be corrected. The Association sends two requests to the owner or occupant to correct defects. When the owner or occupant does not comply with such request this division is notified. Action is then taken to secure correction.

This division has co-operated with the State Bureau of Inspection in securing safe means of exit from buildings, both public and private, where numbers of people work or live above the ground floor.

STANDARDS

The State Fire Marshal is required by statute to issue rules and regulations governing the storage, use and care of combustibles of all kinds. He is further required to prescribe the materials and construction of receptacles and buildings in which such combustibles are used. After the creation of the State Fire Marshal department, this division prepared, adopted and issued standards to safeguard the hazards known to be the causes of many disastrous fires. The standards adopted are: "Rules and Regulations to Regulate the Use, Handling, Storage and Sale of Inflammable Liquids and the Products Thereof, in the State of Indiana;" "Rules and Regulations Regulating the Manufacture, Keeping, Storage, Sale, Use and Transportation of Explosives in the State of Indiana;" "Rules and Regulations for the Installation, Operation and Maintenance of Motion Picture Machines, and to Regulate the Construction and Arrangement of Audience Rooms in Which Motion Picture Exhibitions are to be Given;" "Rules and Regulations for the Construction and Installation of Chimneys and Fireplaces, Smoke and Heater Pipes, Stoves and Ranges;" "Rules and Regulations for Regulating the Equipment, Use and Maintenance of Heating Apparatus and Appliances;" "Rules

and Regulations for the Installation of Gasoline Engines;" "Rules and Regulations for the Installation of Portable Gasolene Engines;" "Rules and Regulations for the Installation of Gas Engines." This division now has in the course of preparation "Rules and Regulations for the Proper Installation of Gasolene Lighting Systems," guarding the hazards incident thereto, and other standards that will properly safeguard the common and special hazards found in the home and in mercantile and manufacturing establishments.

INSPECTIONS

This division has through its inspectors and assistants made an inspection of five thousand, seven hundred and three (5,703) buildings and issued orders for the correction of defects as follows:

Places cleaned	2,056
Defective electric wiring corrected	9
Metal receptacles for ashes and oily waste	147
Waste paper removed	705
Elevator shafts cleaned	413
Defective flues and smoke pipes repaired	79
Hot air pipes repaired	36
Gas lights protected	14
Steam pipes protected	1
Cellar doors and gratings repaired	56
Attics and closets cleaned	248
Flue openings protected by shields	37
Exits cleared	487
Ashes removed	177
Stoves and ranges protected	25
Window lights replaced	44
Fire extinguishers recharged	199
Gasolene systems placed underground	15
Dilapidated buildings ordered down	119
Complaints investigated	238

Of one hundred and nineteen (119) "tear down" orders, sixty-one (61) have been complied with. Upon the balance the time limit has not expired or the time limit has been extended for cause. Of the one hundred and nineteen orders to tear down, there have been three appeals taken by the owners as provided for under the State Fire Marshal law. In one of these cases the order of this department was upheld by the court; in the second the owner of the building dismissed his appeal and complied with the order, and the third appeal is still pending. In nine places where old and dilapidated buildings have been

condemned, they have been torn down and replaced with modern buildings of good construction, which have increased property values in that locality and added to the taxable property in the community.

That you may gain an idea of the class of buildings condemned, photographs of buildings on which "tear down" orders were issued, as well as buildings that replace others torn down, accompany this report. Before issuing tear down orders, this division gives such order careful consideration. It is not our desire to work hardship on any owner, but the interest of the entire community must be served in preference to the interest of the individual. Since dangerous fire traps menace adjoining property, the welfare of the individual must be subordinated to that of the public.

Frequent requests for inspections of old and dilapidated buildings are received. Vacant dilapidated buildings are an open invitation to tramps, loiterers and mischievous persons, through whose carelessness fires are often started. Dilapidated buildings occupied become an additional menace to life and limb. It has been impossible for this division in the nine months covered by this report to inspect all dilapidated buildings called to its attention. Confidential information blanks were sent to anyone who complained of dilapidated buildings. These confidential information blanks are filed in this office. Whenever inspectors visit any town, dilapidated buildings reported in that town are inspected.

ORDINANCES

Few of the smaller cities have in force any ordinances on the subject of fire prevention. In the endeavor to enforce local fire prevention ordinances, we have found that few have been carefully framed. Where such ordinances are in existence, lax enforcement defeats their purpose.

This division, at the request of city and town authorities, has furnished a model building code for adoption. This code with minor changes to meet local conditions, has been adopted by the city of Kokomo. A copy of the code, as passed by the City Council of Kokomo, accompanies this report.

In few cities is the local fire department required to make systematic inspections of the business districts. Ordinances requiring inspection of buildings by members of the fire departments are recommended for adoption to all cities and towns.

Rear View of Dilapidated Buildings, 457–465 West Washington Street, Indianapolis, Indiana, Demolished by Order of State Fire Marshal.

View Showing New Buildings Replacing Dilapidated Buildings Ordered Demolished, 457–455 West Washington Street, Indianapolis, Indiana.

MOTION PICTURE SHOWS

The motion picture theatre is a fire hazard that cannot be too well guarded. Little attention has been paid to the proper safeguarding of the hazard from the motion picture film. The picture theatre is now an established feature in the life of every community. Since the adoption of rules and regulations by this department, new theatres have been closely inspected and such theatres arranged to conform to the rules and regulations.

FIRE DEPARTMENT AND WATER SUPPLY

Many cities in the State lack proper fire fighting appliances and sufficient water supply for such purpose. A number of fires have spread to adjoining buildings and caused large property loss due to poor water supply and inadequate fire fighting apparatus. The advice of this division has been sought in a number of instances where city and town authorities were contemplating the installation of new fire fighting apparatus. Such advice has been freely given.

Sincere thanks for their assistance is due the fire chiefs of the various cities and towns in the State. A majority of the chiefs are fully alive to the importance of preventing the occurrence of fires.

Permit me also to express my appreciation and thanks for the hearty support you have always given me in the work of this division.

Respectfully submitted,

JOHN W. MINOR, JR.,
First Deputy State Fire Marshal.

REPORT OF LEGAL DIVISION

INDIANAPOLIS, IND., December 31, 1913.

Hon. W. E. Longley, State Fire Marshal:

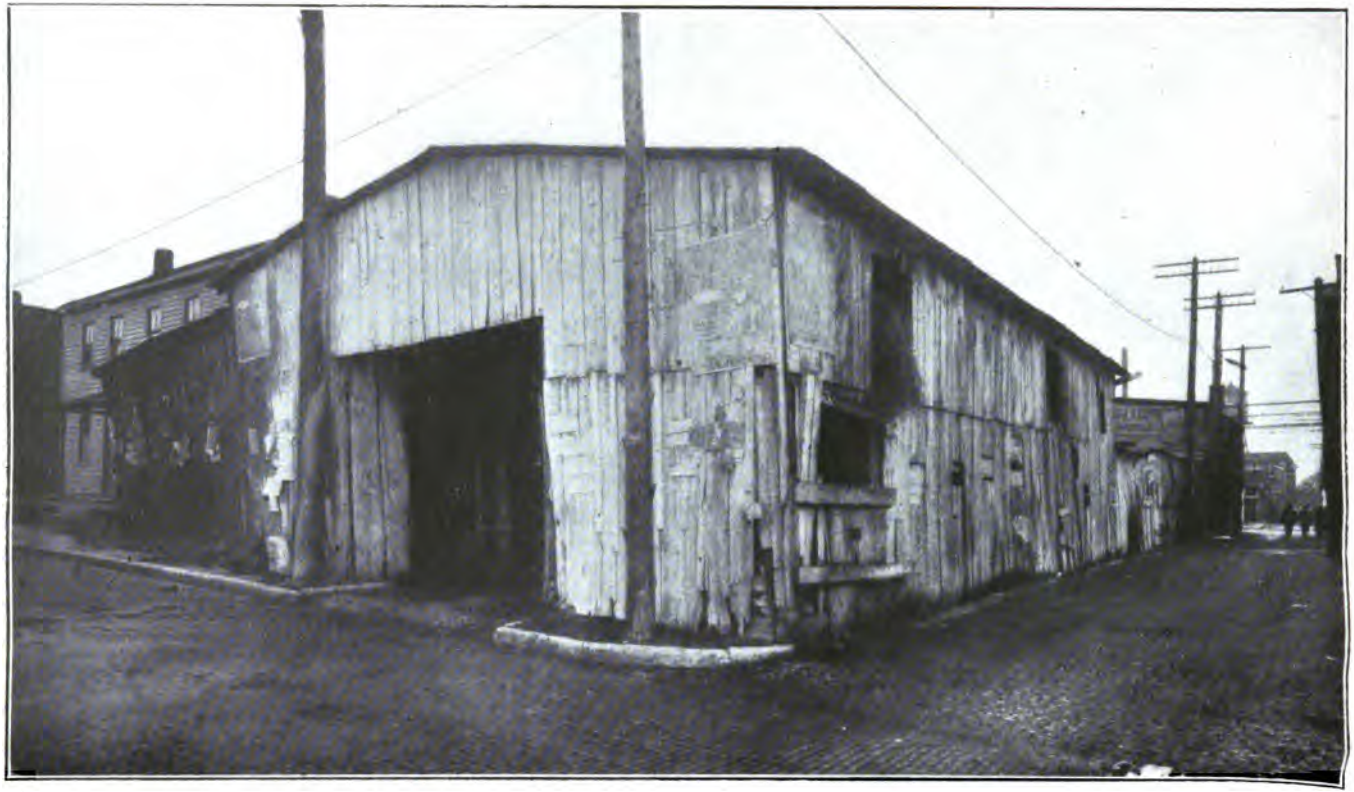
Dear Sir.—A review of the activity of the legal division of your department up to January 1, 1914, contemplates in its entirety, the formative period and organization on a basis best calculated to bring results in the investigation and prosecution of arson and its accessory crimes, involving the collection of evidence and the presentation of the same in the courts of the State. Taking cognizance of the fact that nine months have not expired since organization work began, the object of this report will not be to show by statistical tables large accomplishment, but to present as adequately as may be an idea of the task and its beginning.

It is generally conceded by those institutions which have for their function the enforcement of the criminal law, that there is no crime in the category so hedged about with difficulties to the investigator as that of arson. It is with a purpose of showing the magnitude of the task which confronts this division and the beginning made in the performance of the same, that this message is laid before you. It shall also be the endeavor to point out, with a view to their elimination, obstacles which threaten success.

Arson investigation and prosecution has been the chief feature of the work of this division. Vigorous and widespread opposition has not developed to the efforts of the Fire Marshal to reduce fire hazard by the condemnation and improvement of buildings. This means that the public has welcomed the creation and operation of the Fire Marshal's office in this regard. It has fallen to the legal division of the department to defend orders made by the inspection division of the Fire Marshal's office in three cases only, where appeals were taken from the Fire Marshal's orders. The Fire Marshal's order was affirmed in one case, the petitioner dismissed his appeal in a second, and the third appeal is pending.

BUILDINGS OVERINSURED

At this time the files of this division contain information concerning two hundred fourteen fires. These fires have been reported to this office as of suspicious origin. Arrests have been made, convictions have been obtained, and accused are awaiting trials



Side and Rear View of Dilapidated Building, 535–541 West Washington Street, Indianapolis, Indiana, Demolished by Order State Fire Marshal.

View of New Building Replacing Dilapidated Building Demolished, 535–541 West Washington Street, Indianapolis, Indiana.

on charges preferred by grand juries and by affidavit; others are not yet apprehended. Suspicions as to the origins of some fires at first reported as incendiary have been shown to be unfounded.

Investigations have disclosed the fact that owners of over-insured buildings and stocks of goods were preparing to burn out for insurance money. Such insurance has been cancelled on orders from this division. In one instance the division caused the cancellation of insurance on a stock of goods which had been through two fires and was "on the way" to a third, when the cancellation was effected. We have been successful in preventing this firm from obtaining insurance in other companies, with the result that the firm has gone out of business, stored the stock of goods, and on the receipt of our last information the members had left the State in quest of more fertile fields.

In the few months that this department has been in operation, the legal division has caused a total cancellation of insurance amounting to approximately $43,365. These risks had a high moral hazard. Continuance of the policies canceled would have resulted in certain loss by incendiarism. It is interesting to note that the total insurance canceled exceeds the total annual allowance for maintaining the Fire Marshal department.

Personal investigations of fires by this division have extended into fifty-eight of the ninety-two counties of the State. Correspondence has passed with local authorities and insurance companies concerning suspicious fires in many more of the remaining thirty-four counties.

The following table, showing ten convictions for arson, sets forth the number of prosecutions started in the criminal courts of the State and their present status:

CRIMINAL PROSECUTIONS

Arrests	33
Convictions	10
Acquittals	6
Pleas of guilty	8
Confessions	10
Pending cases	16
Suspended sentences	3
*Jury disagreement	1

A correct insight into the motives for incendiarism can hardly be drawn from an examination of the files in the ten instances of convictions to the credit of this department. The record of ten

*Second disagreement in this case, third trial pending.

cases speaks for so many successful conclusions to investigations in nine months' time. To judge of motives in the aggregate, a survey of more prolonged activity is necessary. However, a hint of the truth may be obtained when it is stated that in four of the ten convictions, the established motive for the crime was greed, buildings being fired for "overinsurance" money. In four instances, those arrested were mental defectives, their reasons being without the lines defining rational motive. In the two remaining cases, the motive was shown to have been revenge.

At this early date in the life of this department, it is possible to point out three conditions which stand in the path of progress —obstacles that have impressed themselves indelibly on the minds of your investigators as menaces to the success of the work of stamping out criminal fire in Indiana.

First. Extensive overinsurance, the result of carelessness on the part of local insurance agents in the contemplation of insurance risks.

Second. Lack of local surveillance and co-operation on the part of prosecuting attorneys.

Third. Inadequacy of the criminal statutes as regards arson.

FIREBUGS CLASSIFIED

It is impossible for anyone to deal with Indiana fires in the aggregate without being impressed with the fact that there is an enormous overinsurance of properties of all sorts, ranging from live stock through the category of risks to the dilapidated dwelling house relic of halcyon days of the past. Everywhere temptation lies in the path of the small property owner temporarily "down on his luck." Wanting a purchaser for deteriorated holdings, he sells out to the only one available—an insurance company. His trade medium is a match. This class of criminal we do not recognize as the professional "fire bug." His, however, is a type far more numerous than the other; his activity swells the annual fire loss and from his ranks the professional is recruited.

The importance of this type of incendiary should not be underestimated. The skilled repeater times and fires generally with a view to preventing his neighbor from suffering a communicated loss and thereby causing additional and troublesome inquiry from an aggrieved source into the origin of his fire. The amateur incendiary venturing for the first or second time may cause the destruction of an entire village or the business section of a town

View of New Building Replacing Four Dilapidated Buildings Ordered Demolished. Corner Washington and West Streets, Indianapolis, Indiana.

where fire-fighting facilities are inadequate. In one instance in the State within the last six months, the trading section of a village was razed and a $200,000 loss resulted from a blaze which, evidence indicates, had its inception in the desire of a small shop owner to realize on a shelf-worn and overinsured stock of merchandise.

The education of this class of citizens to a point where it will seek other means of revamping fortunes, involves the processes of criminal law and the penitentiary. This brings us to the second important obstacle to arson investigation in Indiana—the ineffectiveness of prosecuting machines.

PROSECUTIONS HAMPERED

It is a startling discovery, and a demoralizing one from the standpoint of the investigator of a suspicious fire, when it is learned that a prosecuting attorney is also the legal representative of a prospective defendant in arson proceedings. The files of this division show that such a circumstance has been revealed in three cases. Two investigations have for this reason come to a standstill. In one case it will be possible to continue work looking toward a prosecution after January 1st., when the official in question goes out of office.

In many other instances your investigators have encountered what might be termed, mildly, lack of enthusiasm and energy in arson investigations on the part of prosecuting attorneys. So frequent have instances of such delinquency been as to cause certain other examples of official efficiency to stand out with glaring and gratifying distinctness. The co-operation of these men has demonstrated that it is possible in Indiana to obtain convictions in arson cases.

Such convictions have been and will continue to be obtained, not alone by the efforts of this department, but through the co-operation of men of honesty and integrity engaged in the business of enforcing the law. It is appropriate here to call attention to the assistance given by Fire Marshals of other States and to express our appreciation of the same.

In the organization and maintenance of this division, an attempt has been made to look to future effectiveness. With the increased demand for investigations into criminal fires, there should be corresponding increase in efficiency, due to the fact that individual records are kept of the small army of men and women

Views of Old Dilapidated Ice Houses, Indianapolis, Indiana, being Demolished by Order State Fire Marshal.

whose "line" is the exploiting of the fire and insurance game. An arson gallery has been started. Records grow daily. New fire information comes into the office from ever-multiplying sources, as the public becomes aware of the fact that the State of Indiana has in operation a department which is prosecuting arson and cognate crimes regardless of unfavorable circumstances which may prevail in localities. The arrest of three police officers in two Indiana towns is significant of the nature of the work this department is called upon to do. Arson is too often intrenched behind that protection given by an official cloak or a reputation for business integrity.

INCENDIARIES WARY

There can be no doubt as to the wholesome local effect following prosecutions for arson. The conviction of one man generally suspected by his neighbors of having profited by a fire, means a saving to the insurance company, and ultimately to the public, of an amount that can only be estimated. One record in this division shows that for six months of the history of one Indiana county, there has not been a fire of "unknown" origin. This happy condition prevailed following the arrest of two well known men of the county seat on charges of arson. Insurance men generally declared that this county had had the highest moral hazard in the State.

Specialized investigation in any line, having for its object remedial effect, shows the weakness of the legal weapon used to bring the wrongdoer to justice. Especially is this true in the experience of the police pioneer, be his field that of fire or the social evil. That there is need of careful revision of the law on arson is apparent to the casual observer of daily events in the courts. To those whose duty it is to use the means provided by the Legislature, it is apparent that the time has come when such revision can no longer be delayed.

With the increasing number of prosecutions as a result of arrests, there is a more insistent demand for the time of your investigators as witnesses in criminal trials, before grand juries and in many other ways. The bringing of a case to trial is but a small part of the work of prosecution.

Almost every arrest made and prosecution undertaken leads into the investigation of other cases of incendiarism and discloses similar crimes committed by the associates of the individuals

View of Residence, Indianapolis, Indiana, Replacing Dilapidated Residence Demolished by Order State Fire Marshal.

already apprehended. The work done by this division since the department was established indicates that a conscientious prosecution of arson crime will have a noticeable effect in cutting down the annual fire loss in the State, due to incendiarism.

Yours respectfully,

ROGER W. WALLACE,
Second Deputy State Fire Marshal.

Front View of Dilapidated Building, No. 10 Jefferson Street, Tipton, Indiana, Demolished by Order State Fire Marshal.

View of New Building Erected where Dilapidated Building, No. 10 Jefferson Street, Tipton, Indiana, was Demolished.

REPORT OF STATISTICAL DIVISION

DECEMBER 31, 1913.

Hon. W. E. Longley, State Fire Marshal:

Dear Sir.—I herewith submit the report of the statistical division of your department for the year 1913:

OBJECT

The object of this division is the collection and compilation of accurate statistics covering every phase of the fire loss in Indiana, and by publicity to arouse the citizens of the State to an active interest in fire prevention.

A special effort has been made to make the statistics in this report not only of value to the student of fire prevention but also of interest to the general public. Every precaution was taken to make these statistics accurate. One thousand, four hundred and eighty-seven (1,487) assistants have carefully followed the instructions given and the causes of fire have been reported in uniform terms. Insurance companies notify this office of their losses immediately. The information given by the companies furnishes a check on our local assistants. Assistants failing to report fires within ten days are notified to do so without further delay. It has thus been possible to secure a report of practically every fire. Blanks not properly filled out are sent back for correction.

From May 1st. to December 31st., six thousand two hundred and nine (6,209) losses were reported. In comparison with other States Indiana shows a high number of fires. The checking system employed by this division, securing a report of all but a few minor losses, accounts in a measure for this showing.

In eight (8) months of 1913 a loss of $5,932,110 has been caused by 6,209 fires. An examination of the causes of these fires argues for the necessity of fire prevention work. Sixty-five per cent. of these fires are clearly preventable. If the citizens of Indiana had paid fines, as in Germany, for fires due to their criminal negligence in the past year, the sum collected would have been more than sufficient to maintain this department. The human element cannot be eliminated; for that reason a certain number of fires will always occur, but ordinary precautions would eliminate a large part of our fire waste.

Special attention is called to the chief causes of Indiana fires.

SPARKS FROM CHIMNEY

Sparks from the chimney alighting on the shingle roof is the most frequent cause. Seven hundred and fourteen (714) such fires caused a loss of $236,408. Noncombustible roof construction would have saved this amount. No city in this State should permit any new building to be covered or any old building to be re-covered with combustible roofing. The shingle roof is a dangerous conflagration hazard. Flying embers fall on distant shingle roofs starting isolated fires in numbers that no fire department can control.

DEFECTIVE FLUES

The defective flue, with a loss of $315,731, is the second cause in frequency. These fires are absolutely inexcusable. Careful and frequent examination of all flues and corrections of defects by owners and occupants would eliminate this cause. Flues cracked by settling foundations, disintegrating mortar and crumbling bricks, leave space for sparks to escape. The standard for chimney construction prepared by the Fire Marshal department requires that all flues be lined with flue tile. This construction prevents defective flue fires.

LIGHTNING

Our local assistants report all lightning losses, whether or not fire results. Lightning losses total one thousand and six (1,006), causing a property damage of $864,221. The lightning statistics appear in a special table. Seventy-five per cent. of all lightning losses occur in the rural districts which contain but forty-seven per cent. of the population.* Nine-two per cent. of all barns damaged from this cause were in the country, and sixty-nine per cent. of all barn losses were total.

There has been much discussion of the value of the lightning rod. The statistics compiled by this and other departments and the known experience of farmers' mutuals in this and other States furnish evidence that the lightning rod, properly placed, is certain protection from lightning. Thomas A. Edison endorses the lightning rod in unqualified terms. Only three or four total losses on buildings equipped with rods occurred in Indiana. In these instances, where an examination was made, it was found that the rods were not properly placed or that, as in one instance, they had been in service thirty years without repair. In Germany the government examines lightning rods each spring.

*"Rural district"—All territory outside the incorporated towns and cities.

Front and Side Views of Dilapidated Livery Barn, Portland, Indiana, Ordered Demolished by State Fire Marshal.

Front and Rear Views of Dilapidated Buildings, Pendleton, Indiana, Demolished by Order State Fire Marshal.

Two farmers' mutuals in this State make a reduction of twenty per cent. in the rate on buildings properly equipped with rods. This step has been taken after keeping careful records of the losses from lightning on both rodded and unrodded risks. Several mutuals in other States refuse to insure buildings not provided with this protection. Destruction during the past year of property worth a half million dollars would have been prevented by the proper rodding of buildings on Indiana farms.

ADJOINING

Six hundred and five (605) fires originated from adjoining burning buildings and caused a loss of $562,331. No stronger argument to show the responsibility of a man to his neighbor and the community can be found. If a man is willing to hazard his own property by permitting dangerous conditions to exist on his premises, it is clearly the duty of the State to secure the correction of these conditions in order to protect the interests of the community.

MATCHES

Three hundred and sixty (360) fires and a loss of $28,000 were due directly to the careless handling of matches. One hundred and fifty-two (152) of these fires were caused by children playing with matches. The "strike-anywhere" match has justly earned the title of the "criminal" match. Its careless use causes the destruction of property, loss of life and serious injury. Our State might well follow the example of Wisconsin* and prohibit the sale of the most dangerous types.

GASOLENE

Gasolene explosions caused two hundred and seventy-four (274) fires and a loss of $119,000. One hundred and twenty-eight (128) of these were caused by the careless use of gasolene stoves in the homes. Several of these losses were accompanied by loss of life and serious injury. The chief internal cause of fires in stores is the gasoline explosion. (See Table IV.) This clearly shows the necessity for compliance with the standard for gasolene storage prepared by the inspection division.

SPARKS FROM LOCOMOTIVE

The largest single loss in the State was due to sparks from the locomotive. The total number of fires from this cause was two

*Chapter 360, Section 1636c.

hundred and thirty-one (231), and the damage $579,680. It has been declared that all methods for prevention of flying sparks from a locomotive are too expensive to be used. No expense should be spared to find some practicable means of eliminating this fire cause.

FIRES OF UNKNOWN ORIGIN

Of the six thousand, two hundred and nine (6,209) reports received, one thousand, four hundred and eighty-eight (1,488) fires, or twenty-four per cent., were given as of "unknown" origin. Experienced fire chiefs determine accurately the causes of fires. Some chiefs report only eight or ten per cent. as of unknown origin. Many unknown origin reports come from districts where fires are infrequent. In cities where fires occur daily, fire chiefs become expert in determining fire causes. The assistants are cautioned to make every effort to discover the cause of each fire.

INCENDIARY

The record of incendiary fires given in the statistical tables is based on the reports sent in by our assistants. Many other cases were investigated by the legal division which had not been reported as of suspicious origin by the Fire Marshal's assistants. The report of the legal division, given elsewhere, deals extensively with incendiary fires.

DWELLING HOUSE FIRES

Dwelling house fires constitute fifty-two per cent. of the total number in the State. Attention is called to the chief causes of these fires, and the per cent. of the total number due to each, here given:

Cause.	*Per Cent. of Total*
Sparks from chimney	17
Defective flues	15
Lightning	9
Adjoining	8
Gasoline explosion	6
Kerosene explosion	6
Total	61

Sixty-one per cent. of all the dwelling house fires have been due to these six causes. Most of these fires are due to faulty construction or carelessness, and are preventable.

Views of Dilapidated Buildings, 1412-22 East Broad Street, New Castle, Indiana, Ordered Demolished by State Fire Marshal.

FIRE PREVENTION IN THE CITIES

Sixty-five per cent. of the total number of losses occur in the towns and cities. The cities of more than four thousand inhabitants have fifty-three per cent. of the number of fires, and bear fifty-two per cent. of the loss, although these cities contain but thirty-nine per cent. of the State's population. The annual Indiana fire loss will be most speedily reduced by an effective fire prevention campaign in these cities. The large expenditure for fire extinguishment and the small expenditure for fire prevention should command the attention of each Indiana citizen. In 1911 Indiana cities spent $1,158,717 for the maintenance of their fire departments. No city in this State appropriates any money to support a department of fire prevention or a bureau of fire prevention within the fire department.

FOURTH OF JULY

An effort was made to lessen the number of fires which usually occur on this day. Since there are no records of the number of fires caused by fireworks in previous years, it is impossible to determine that the number was materially decreased. Fireworks caused fifty fires and a loss of $8,250 on July 4, 1913. Prohibiting the sale of fireworks is the most effective method of preventing these fires.

FIRE DRILLS

In compliance with Section 14 of the State Fire Marshal law, which requires that a fire drill shall be held in every public school at least once each month, all the assistants over the State were instructed to see that this provision of the law was obeyed. The regulations for fire drills recommended by the National Fire Protection Association, and also the regulations promulgated by other State Fire Marshals, were examined carefully, and after conference with the school authorities, regulations were issued governing fire drills in the schools of Indiana. A copy of these regulations is appended. The necessity for such regulations has been shown in many schoolhouse fires. That these fire drills are of service in preventing loss of life has also been demonstrated. This provision of the law has been commended by newspapers throughout the State and has met with public approval. An example of the service of fire drills occurred in Fort Wayne during the month of November. A Fort Wayne newspaper contained the following editorial:

View of Dilapidated Building, Redkey, Indiana, Demolished by Order State Fire Marshal.

Rear View of Dilapidated Building, New Castle, Indiana, Ordered Demolished by State Fire Marshal.

View of Dilapidated Shed, Elwood, Indiana, Removed by Order State Fire Marshal.

View of Dilapidated Blacksmith Shop, Elwood, Indiana, Demolished by Order State Fire Marshal.

"The fact that more than five hundred pupils in one of the city school buildings were able to get out safely and without panic or confusion when an alarm of fire was sounded is a source of infinite satisfaction to parents, to teachers and to citizens of Fort Wayne generally. It is a splendid testimonial to the efficiency of fire drills which are given regularly to the pupils in all the schools of the city."

In some instances the school superintendents have failed to realize the importance of the fire drill. It is sincerely hoped that their negligence will not be the cause of any loss of life should a fire occur in the buildings over which they have jurisdiction. Fifty fires occurred in the schoolhouses of the State in the last eight months of 1913. The provision for fire drills is one of the most important in the law. The local assistant fire marshals are instructed to watch this matter carefully and see that the law is obeyed.

EDUCATION

"Fire Prevention Day."

On September 20th., Governor Ralston issued a proclamation designating October 9th. as Fire Prevention Day. The reason for this action, the purpose of the observance, and the suggested manner of observance, is set forth in the Governor's proclamation which is here given:

PROCLAMATION.

Executive Department. State of Indiana.

One of the most prolific sources of economic waste in the United States has been the destruction of property by fire. The annual fire loss in the whole country has averaged about two hundred and twenty-five million dollars; in Indiana the annual loss has been about six million dollars. The number of fires reported in the State since the establishment of a state fire prevention bureau, May first, to August twenty-eighth, this year, is 3,290, and the loss resulting therefrom is estimated at $3,846,165.

It may be said that these losses were largely indemnified by the insurance paid thereon. But when it is remembered that insurance companies must be reimbursed by the property owners carrying policies, it is seen that in the last analysis the people pay for all this loss and waste. And it is then realized that an efficient co-operation between the people their fire officials and the insurance companies, would not only greatly reduce the burden of the fire loss itself—to say nothing of the lives that might be saved thereby—but would also cause a substantial reduction in the insurance rates throughout the State.

To this desirable end, therefore, I, Samuel M. Ralston, Governor of Indiana, do hereby designate Thursday, the ninth day of October, 1913, as *Fire Prevention Day*, and I most earnestly recommend to those in charge of public and private buildings as to all the people of the State, whether or not they be owners of perishable property, that on said day they shall make a special effort to prevent future fires by a careful inspection of the property and premises they occupy as caretakers, owners or tenants, and by removing all useless and combustible materials therefrom; that the civil officers of the State and the various municipalities therein call public attention to the benefit and necessity of a more methodical watchfulness in the matter of fire prevention; and that all the school authorities of the State, both public and private, shall on that day conduct such exercises as will impress the importance of fire prevention on both teachers and pupils, and shall continue at stated times to conduct proper fire drills, as heretofore. And I urge all other civic organizations to lend their hearty moral support to this important form of conservation of our resources.

In Witness Whereof, I have hereunto set my hand and caused to be affixed the Great Seal of the State, at the Capitol in the City of Indianapolis, this 20th day of September, A. D. 1913.

SAMUEL M. RALSTON,
Governor.

By the Governor:
L. G. ELLINGHAM,
Secretary of State.

While the adult population of the State gave very little attention to the request for real fire preventative action, the schools observed the day and studied our fire waste problem and methods of fire prevention. Requests were received for material to be used in presenting this problem to the pupils from more than twenty-five of the larger cities of the State and from many teachers in the rural districts. An excellent plan of observance was followed in Connersville. The superintendent of the city schools directed that the students throughout the city should, in the week containing Fire Prevention Day, devote their compositions to some phase of the fire waste and fire prevention work. Thus no time was taken from school work and the subject was given thorough consideration. The educative value of Fire Prevention Day has been demonstrated. The practice established in 1911 of setting aside one day in each year for education and effective fire prevention work should be continued.

The newspapers have furnished the chief medium for directing the attention of the citizens to fire prevention. A weekly bulletin of information has been furnished to all newspapers in the State.

One of the important duties confronting the Fire Marshal at the beginning of the work was to acquaint the people with the provisions of the Fire Marshal law; to make them understand the necessity for fire prevention and the plans by which fire losses might be minimized. The only way to reach the people of Indiana is through their newspapers. Thirty-five articles were sent out presenting methods of fire prevention and current news of fire prevention work in Indiana. Current statistics of fire losses emphasized the recommendations for reducing fire hazards made by this department. Wide circulation given this news matter is evidence that the editors find the public interested in Indiana's attempt to conserve its resources.

For the opportunity to secure accurate statistics, I am indebted to the local assistants who have, for the most part, reported all fires promptly and accurately. The farmers' mutuals are also to be commended for their efficient co-operation. They have furnished us with the reports and co-operated in any way possible to further the fire prevention propaganda. The assistants in the office gave valuable aid. I wish to thank you for the scope allowed me in directing this work.

Yours respectfully,

RALPH E. RICHMAN,
Secretary.

INDEX TO STATISTICAL TABLES

All population figures from 1910 U. S. census report.

TABLE I.

TOTAL NUMBER OF FIRES AND LOSS BY MONTHS.

Month.	Number of Losses.	Loss.
May	537	$569,366
June	994	723,503
July	1,230	1,878,072
August	1,108	1,024,829
September	686	433,612
October	566	276,320
November	569	459,318
December	519	567,090
Totals	6,209	$5,932,110

TABLE II.

CAUSE STATISTICS.

Cause.	Number of Losses.	Value of Buildings.	Value of Contents.	Loss on Buildings.	Loss on Contents.
Adjoining	605	$1,478,094	$1,055,483	$227,777	$334,554
Ashes vs. wood	63	322,500	193,736	5,540	15,097
Boiling oils	2	72,500	73,200	50	125
Burning rubbish	129	319,682	104,217	12,047	8,685
Careless smoker	83	395,453	80,491	7,288	8,019
Careless with candles	10	40,800	18,550	2,950	1,645
Careless with matches	108	327,385	97,001	14,131	10,180
Child with matches	152	146,394	39,423	21,063	7,459
Christmas tree	6	13,900	3,700	252	640
Coals from stove	5	7,000	4,500	188	270
Defective furnace	9	80,000	6,100	1,331	172
Defective grate	2	3,000	1,100	405	50
Defective stove	28	352,450	32,275	8,267	2,281
Defective flue	528	932,891	976,253	222,687	93,044
Defective wiring	108	1,161,824	900,380	96,138	51,365
Drapery vs. fire	20	64,800	17,125	435	784
Dynamite explosion	1	3,000	.....	3,000	.....
Explosion of chemicals	2	4,200	2,789	665	970
Film ignited	8	49,200	22,850	1,415	3,170
Fireworks	64	103,593	51,255	9,671	6,972
Friction	7	79,100	84,500	9,020	23,050
Fumigating	6	15,000	7,010	.....	105
Gas explosion	32	101,350	35,500	2,848	3,403
Gas jet	27	53,400	26,575	4,043	4,536
Gasoline explosion	131	410,773	229,666	52,347	41,835
Gasoline stove	146	398,561	182,300	12,782	12,325
Hot iron	23	114,102	58,300	1,190	1,894
Hot plate	2	2,700	1,100	85	40
Incendiary	104	201,680	162,288	40,553	39,444
Incubator from lamp	3	1,050	500	255	405
Kerosene explosion	11	116,300	68,000	1,267	432
Kerosene lamp	92	154,276	58,294	37,046	19,574
Kerosene stove	108	156,777	61,774	16,460	10,893
Lightning	1,006	1,846,643	889,514	536,963	327,888
Overheated cupalo	1	7,000	5,000	25	.....
Overheated exhaust	1	1,200	.....	10	.....
Overheated smokehouse	5	3,215	1,535	455	55
Sparks from boiler	3	20,000	14,750	10,002	3,750
Sparks from chimney	714	1,454,431	759,512	137,431	98,977
Sparks from forge	6	5,375	1,800	860	400
Sparks from locomotive	231	375,789	1,300,939	92,178	487,502
Sparks from tinner's fire pot	5	6,800	54,500	68	100
Spontaneous combustion	107	717,247	527,081	67,001	73,201
Tramps	15	11,258	2,905	9,907	2,855
Unknown	1,488	4,522,683	2,808,774	1,200,715	1,365,153
Totals	6,209	$16,665,876	$11,022,545	$2,868,811	$3,063,299

TABLE III.

PROPERTY STATISTICS.

Property.	Number of Losses.	Value of Buildings.	Value of Contents.	Loss on Buildings.	Loss on Contents.	Insurance on Buildings.	Insurance on Contents.
Armory	1	$12,000	$40,000	$12,000	$40,000	$4,000	.....
Auto	41	50,101	1,083	7,653	835	10,300	$8,900
Awnings	8	207	.....	207	.....	800	.....
Bank	2	11,000	.....	6	.....	3,000	.....
Barber shop	5	5,550	1,950	3,460	635	3,000	1,100
Barns	1,474	884,877	675,780	672,175	486,369	493,391	318,626
Blacksmith shop	1	300	100	10	.....	.....	.....
Box	2	57	.....	57	.....	.....	.....
Box cars	41	43,182	19,987	14,985	4,539	6,644	6,860
Bridge	5	2,800	.....	327	.....	.....	.....
Church	26	205,200	16,750	13,773	7,698	93,000	4,200
Dairy	1	1,500	1,200	50	.....	1,000	500
Depot	10	131,500	121,225	21,601	21,245	70,500	87,500
Dwellings	3,232	6,174,613	1,865,285	923,501	405,250	3,299,208	887,793
Elevator	11	174,150	241,750	81,661	32,841	117,120	205,500
Garage	31	56,575	77,485	6,736	13,891	22,550	19,659
Greenhouse	1	150	300	150	300	.....	.....
Hay	53	30,700	4,175	7,929	3,785	17,347	1,608
Hospital	2	17,000	4,000	10,015	800	9,000	3,000
Hotel	37	330,501	132,700	31,956	9,534	221,400	50,500
Jail	2	55,250	1,800	5	10	40,120	420
Junk	1	600	500	600	500	.....	.....
Laundry	9	33,350	82,400	3,330	6,770	26,600	31,920
Livestock	89	12,748	300	12,748	.....	7,778	.....
Lodge hall	6	9,000	5,000	3,527	3,800	4,000	3,800
Lumber	13	5,237	3,000	2,169	710	1,000	1,500
Manufacturing	330	3,692,894	5,097,019	584,652	1,133,343	2,446,323	3,410,199
Mine	1	35	400	35	40	.....	.....
Office	38	654,656	128,530	37,338	15,320	362,490	97,315
Postoffice	3	11,500	8,000	2,000	5,050	15,200	6,850
Poultry house	3	7,025	7,000	1,205	2,131	5,000	2,500
Publishing house	2	2,500	2,500	225	800	4,500	1,200
Restaurant	32	114,200	49,625	3,252	6,613	70,000	37,675
Saloon	19	97,000	24,850	63,793	9,625	49,400	12,650
Schoolhouses	50	475,851	45,269	47,761	9,403	320,050	27,000
Sheds	128	66,648	62,220	30,581	16,533	38,860	35,187
Smokehouse	2	140	50	108	50	.....	.....
Stores	421	2,377,464	2,125,022	248,062	770,873	1,332,145	1,464,821
Telephone exchange	3	30,000	18,000	294	5,207	14,500	17,650
Theatre	19	670,350	31,750	4,280	4,461	93,880	22,250
Street car	2	550	4,464	400	1,964	1,200	1,000
Warehouses	52	216,915	121,076	14,194	42,374	37,905	78,298
Totals	6,209	$16,665,876	$11,022,545	$2,868,811	$3,063,299	$9,243,211	$6,847,981

TABLE IV.

PROPERTY AND CAUSE STATISTICS.

Property.	Number from Each Cause.	Partial Loss.	Total Loss.	Wood.	Brick.	Stone.
Armory			1			Cement 1.
Unknown	1					
Automobiles		35	6			
Unknown	22					
Gasolene explosion	12					
Defective wiring	3					
Overheated exhaust	1					
Careless with matches	2					
Adjoining	1				1	
Awnings		4	4			
Fireworks	3					
Careless smoker	2					
Defective wiring	1					
Gasolene explosion	1					
Unknown	1					
Banks		2			2	
Unknown	1					
Careless smoker	1					
Barber shops		4	1	3	2	
Adjoining	3					
Defective flue	1					
Sparks from chimney	1					
Barns		656	818	1,465	10	1
					Wood and	d stone 2.
					Wood and	d metal 1.
Lightning	510					
Unknown	436					
Adjoining	159					
Child with matches	67					
Burning rubbish	63					
Sparks from chimney	36					
Sparks from locomotive	35					
Spontaneous combustion	34					
Incendiary	29					
Careless smokers	26					
Careless with matches	18					
Fireworks	16					
Ashes vs. wood	15					
Defective wiring	10					
Kerosene lamp	5					
Defective flue	5					
Tramps	3					
Gasolene stove	2					
Defective stove	1					
Hot iron	1					
Kerosene explosion	1					
Soot burning	1					
Incubator	1					
Blacksmith shop		1		1		
Unknown	1					
Boxes		2		2		
Fireworks	1					
Unknown	1					
Box cars		37	4	41		
Spark from locomotive	12					
Unknown	6					
Tramps	4					
Ashes vs. wood	4					
Adjoining	3					
Burning rubbish	3					
Defective wiring	2					
Spontaneous combustion	2					
Gasolene explosion	1					
Incendiary	2					
Careless smoker	1					
Dynamite explosion	1					

TABLE IV—Continued.

Property.	Number from Each Cause.	Partial Loss.	Total Loss.	Wood.	Brick.	Stone.
Bridges		3	2	3	Wood and iron 2.	
Sparks from locomotive	3					
Incendiary	1					
Unknown	1					
Churches		24	2	14	12	
Lightning	14					
Defective flue	3					
Sparks from chimney	2					
Burning rubbish	2					
Unknown	2					
Sparks from locomotive	1					
Careless smoker	1					
Defective furnace	1					
Dairy		1		1		
Sparks from chimney	1					
Depot		7	3	7	3	
Unknown	4					
Sparks from locomotive	3					
Defective flue	1					
Lightning	1					
Adjoining	1					
Dwellings		2,782	450	3,019	187	6
					Wood and brick 20.	
Unknown	642					
Sparks from chimney	559					
Defective flue	475					
Lightning	305					
Adjoining	255					
Gasolene stove	128					
Kerosene stove	103					
Sparks from locomotive	87					
Kerosene lamp	77					
Child with matches	71					
Careless with matches	67					
Gasolene explosion	60					
Defective wiring	54					
Incendiary	43					
Spontaneous combustion	32					
Fireworks	31					
Ashes vs. wood	25					
Burning rubbish	31					
Gas explosion	23					
Defective stove	22					
Gas jet	20					
Drapery and fire	20					
Careless smoker	24					
Soot burning	19					
Hot iron	10					
Defective furnace	9					
Careless with candles	9					
Kerosene explosion	7					
Christmas tree	6					
Tinner's fire pot	3					
Tramps	3					
Coals from stove	5					
Defective grate	2					
Burning paint	2					
Hot plate	2					
Incubator	1					
Elevators		7	4	8	Iron clad	3.
Unknown	4					
Lightning	3					
Sparks from locomotive	3					
Burring rubbish	1					

TABLE IV—Continued.

Property.	Number from Each Cause.	Partial Loss.	Total Loss.	Wood.	Brick.	Stone.
Garage		28	3	14	16	Cement 1.
Unknown	7					
Gasolene explosion	7					
Adjoining	7					
Burning rubbish	2					
Defective wiring	2					
Child with matches	2					
Incendiary	2					
Careless smoker	1					
Ashes vs. wood	1					
Defective flue	1					
Greenhouse			1	1		
Adjoining	1					
Hay		33	20			
Lightning	23					
Sparks from locomotive	9					
Unknown	8					
Careless smoker	5					
Burning rubbish	2					
Adjoining	2					
Careless with matches	2					
Child with matches	1					
Spontaneous combustion	1					
Hospitals		2			2	
Sparks from chimney	2					
Hotels		34	3	12	21	Wood and brick 4.
Unknown	14					
Sparks from chimney	5					
Careless with matches	4					
Adjoining	3					
Gas explosion	2					
Fireworks	2					
Careless smoker	2					
Burning rubbish	1					
Defective flue	1					
Ashes vs. wood	1					
Defective wiring	1					
Incendiary	1					
Jails		2			2	
Careless smoker	1					
Burning rubbish	1					
Junk						
Unknown	1					
Laundries		7	2	7	2	
Defective wiring	2					
Hot iron	2					
Sparks from chimney	2					
Spontaneous combustion	1					
Gasolene explosion	1					
Adjoining	1					
Live stock			89			
Lightning	89					
Lodge halls		4	2	3	3	
Adjoining	2					
Unknown	1					
Defective furnace	1					
Sparks from chimney	1					
Kerosene stove	1					
Lumber		10	3	13		
Sparks from locomotive	8					
Unknown	1					
Child with matches	1					
Burning rubbish	1					
Sparks from chimney	1					
Adjoining	1					

TABLE IV—Continued.

Property.	Number from Each Cause.	Partial Loss.	Total Loss.	Wood.	Brick.	Stone.
Manufactories		244	86	206	97	Wood and brick 16, Cement 8 wood and iron 8, brick and stone 1, iron 2.
Unknown	89					
Sparks from chimney	50					
Sparks from locomotive	30					
Adjoining	25					
Spontaneous combustion	22					
Lightning	20					
Defective wiring	14					
Gasolene explosion	10					
Defective flue	7					
Friction	7					
Ashes vs. wood	5					
Incendiary	6					
Gasolene stove	5					
Sparks from forge	5					
Burning rubbish	4					
Kerosene lamp	3					
Hot iron	3					
Defective stove	3					
Careless smoker	3					
Defective furnace	3					
Gas explosion	2					
Gas jet	2					
Sparks from boiler	2					
Fireworks	2					
Kerosene explosion	2					
Smokehouse	1					
Tinner's fire pot	2					
Careless with match	1					
Overheated cupalo	1					
Tramps	1					
Mine		1				
Unknown	1					
Offices		30	8	17	20	Brick and stone 1.
Unknown	16					
Adjoining	5					
Careless smoker	3					
Lightning	2					
Defective flue	2					
Sparks from chimney	2					
Kerosene lamp	2					
Defective stove	1					
Boiling pitch	1					
Sparks from locomotive	1					
Burning rubbish	1					
Spontaneous combustion	1					
Defective wiring	1					
Postoffice		1	2	2	1	
Incendiary	2					
Spontaneous combustion	1					
Poultry houses		3		1	1	Wood and brick 1.
Defective wiring	1					
Burning rubbish	1					
Unknown	1					
Publishing houses		2		2		
Unknown	2					
Restaurants		28	4	21	11	
Unknown	10					
Gasolene stove	6					
Defective flue	5					
Ashes vs. wood	2					
Gasolene explosion	2					
Careless smoker	2					
Burning rubbish	1					
Adjoining	1					
Hot iron	1					
Incendiary	1					
Child with matches	1					

TABLE IV—Continued.

Property.	Number from Each Cause.	Partial Loss.	Total Loss.	Wood.	Brick.	Stone.
Saloons		16	3	12	7	
Unknown	6					
Adjoining	5					
Sparks from chimney	2					
Gas explosion	2					
Incendiary	2					
Gasolene stove	1					
Sparks from locomotive	1					
Schoolhouses		40	10	16	33	Brick and stone 1.
Lightning	27					
Unknown	11					
Defective flue	3					
Ashes vs. wood	2					
Adjoining	1					
Incendiary	1					
Kerosene stove	1					
Burning rubbish	1					
Defective furnace	1					
Kerosene explosion	1					
Tramps	1					
Sheds		83	45	128		
Unknown	37					
Adjoining	36					
Sparks from locomotive	18					
Child with matches	6					
Sparks from chimney	6					
Burning rubbish	4					
Gasolene explosion	3					
Incendiary	3					
Lightning	2					
Fumigating	6					
Ashes vs. wood	2					
Careless smoker	1					
Spontaneous combustion	1					
Fireworks	1					
Careless with matches	1					
Defective flue	1					
Smokehouses		1	1		1	Cement 1.
Unknown	1					
Child with matches	1					
Stores		354	67	220	185	5
Unknown	135					Wood and brick 7, Brick and Cement 1, Cement 3.
Adjoining	81					
Gasolene explosion	33					
Sparks from chimney	18					
Defective flue	18					
Careless with matches	18					
Defective wiring	13					
Sparks from locomotive	10					
Careless smoker	12					
Burning rubbish	11					
Fireworks	10					
Spontaneous combustion	9					
Incendiary	8					
Hot iron	6					
Lightning	6					
Ashes vs. wood	5					
Kerosene lamp	5					
Gas jet	2					
Gasolene stove	4					
Smokehouse	4					
Kerosene stove	3					
Tramps	3					
Chemical explosion	2					
Gas explosion	2					
Soot burning	2					
Defective stove	1					
Telephone exchange		3		1	2	
Lightning	2					
Unknown	1					

TABLE IV—Continued.

PROPERTY.	Number from Each Cause.	Partial Loss.	Total Loss.	Wood.	Brick.	Stone.
Theatres		18	1	8	10	1
Film ignited	8					
Unknown	6					
Defective wiring	2					
Burning rubbish	1					
Gas explosion	1					
Careless with candles	1					
Street cars		2		2		
Incendiary	2					
Warehouses		31	21	43	8	Brick and stone 1, Iron 1.
Unknown	19					
Adjoining	12					
Sparks from locomotive	7					
Sparks from chimney	4					
Spontaneous combustion	3					
Lightning	2					
Sparks from boiler	1					
Child with matches	2					
Defective wiring	1					
Incendiary	1					
Totals	6,209	4,543	1,666	5,293	638	13

Wood and brick	48
Cement	14
Wood and metal	11
Ironclad	5
Brick and stone	5
Wood and stone	2

TABLE V.

COUNTY STATISTICS.

County.	Population.	Number of Fires.	Number of Incendiary Fires.	Value of Property Jeopardized.	Damage to Property.	Insurance on Property Jeopardized.
Adams	21,840	41	.....	$48,238	$24,863	$30,439
Allen	93,386	126	2	608,923	67,340	389,695
Bartholomew	24,813	64	.....	362,963	38,553	64,380
Benton	12,688	23	.....	50,611	18,069	29,488
Blackford	15,820	40	.....	169,085	38,326	121,485
Boone	24,673	61	.....	94,414	49,937	43,197
Brown	7,975	4	.....	2,025	945	1,250
Carroll	17,970	22	.....	38,596	9,618	16,457
Cass	36,368	97	1	361,389	30,309	217,809
Clark	30,260	48	.....	82,551	11,419	47,673
Clay	32,535	86	5	126,592	41,658	80,946
Clinton	26,674	41	.....	129,040	16,001	73,450
Crawford	12,057	12	.....	19,450	17,345	6,425
Daviess	27,747	52	1	112,622	18,876	37,195
Dearborn	21,396	15	.....	28,852	13,699	11,895
Decatur	18,793	12	.....	21,375	12,785	11,485
Dekalb	25,054	58	.....	164,269	91,191	102,965
Delaware	51,414	106	.....	364,065	51,651	137,539
Dubois	19,843	20	.....	32,900	14,578	16,200
Elkhart	49,008	108	1	287,178	73,204	173,275
Fayette	14,415	22	.....	195,560	12,298	77,225
Floyd	30,293	128	3	454,337	278,348	337,791
Fountain	20,439	42	.....	84,076	36,403	36,765
Franklin	15,335	9	.....	13,895	5,932	4,480
Fulton	16,379	29	.....	46,120	20,074	18,100
Gibson	30,137	56	1	$190,150	$118,969	$122,333
Grant	51,426	118	.....	503,666	184,221	288,640
Greene	36,873	107	2	207,506	135,685	77,460
Hamilton	27,026	57	3	123,350	23,375	52,804
Hancock	19,030	56	2	76,810	36,973	35,945
Harrison	20,232	32	2	66,659	54,691	29,383
Hendricks	20,840	57	1	156,775	98,308	88,525
Henry	29,758	74	3	277,113	53,256	163,670
Howard	33,177	77	1	353,751	63,672	369,816
Huntington	28,982	61	1	392,711	51,143	191,288
Jackson	24,727	68	1	209,532	42,532	64,325
Jasper	13,044	26	1	49,457	15,221	20,223
Jay	24,961	60	2	210,503	39,951	59,939
Jefferson	20,483	26	1	68,022	17,262	26,725
Jennings	14,023	14	1	11,140	8,928	5,608
Johnson	20,394	40	.....	59,421	19,824	36,150
Knox	39,183	64	.....	118,768	40,427	78,060
Kosciusko	27,936	36	.....	110,296	27,053	48,235
Lagrange	15,148	30	.....	42,441	17,195	23,752
Lake	82,864	244	6	1,946,458	293,321	1,195,899
Laporte	45,797	98	1	1,655,400	478,131	886,595
Lawrence	30,625	59	.....	149,885	66,575	80,350
Madison	65,224	227	1	705,551	83,551	469,816
Marion	263,661	704	16	6,572,090	1,059,153	4,919,887
Marshall	24,175	50	3	82,830	27,116	30,798
Martin	12,950	6	1	12,200	9,910	6,450
Miami	29,350	47	1	142,910	60,811	84,960
Monroe	23,426	89	.....	625,453	70,591	356,850
Montgomery	29,296	89	2	223,600	42,205	116,285
Morgan	21,182	48	2	127,559	56,139	66,600
Newton	10,504	27	.....	89,115	28,820	44,436
Noble	24,009	26	.....	58,930	15,822	30,128
Ohio	4,329	2	.....	1,155	715	705
Orange	17,192	39	5	64,429	31,503	35,431
Owen	14,053	24	.....	12,654	6,068	7,400
Parke	22,214	39	1	53,482	32,737	25,530
Perry	18,078	18	.....	58,705	52,585	17,490
Pike	19,684	41	1	40,485	29,529	23,687
Porter	20,540	55	.....	171,185	48,824	92,558
Posey	21,670	63	1	152,130	45,360	52,727
Pulaski	13,312	24	.....	53,925	31,090	26,495
Putnam	13,312	46	1	56,256	41,855	25,795
Randolph	29,013	69	.....	214,555	118,743	123,155
Ripley	19,452	38	1	45,750	18,423	24,905
Rush	19,349	54	1	227,528	153,516	79,192

TABLE V—Continued.

County.	Population.	Number of Fires.	Number of Incendiary Fires.	Value of Property Jeopardized.	Damage to Property.	Insurance on Property Jeopardized.
Scott	8,323	12	.....	18,686	5,018	9,050
Shelby	26,802	56	2	84,897	51,237	45,640
Spencer	20,676	58	.....	61,516	26,938	36,528
Starke	10,567	38	.....	63,940	30,493	35,415
St. Joseph	84,312	202	2	1,675,078	126,045	466,335
Steuben	14,274	39	.....	97,451	25,358	47,275
Sullivan	32,429	130	3	294,838	110,816	158,236
Switzerland	9,914	13	.....	17,800	8,934	10,065
Tippecanoe	40,063	115	1	742,985	37,942	176,700
Tipton	17,459	31	.....	49,820	16,535	28,572
Union	6,260	8	.....	43,800	7,520	27,635
Vanderburgh	77,438	243	2	2,048,413	92,132	1,297,344
Vermillion	18,865	37	.....	97,210	20,370	59,600
Vigo	87,930	262	9	814,342	116,292	495,227
Wabash	26,926	100	2	194,370	83,654	112,895
Warren	10,899	34	.....	40,576	16,298	12,386
Warrick	21,911	48	1	101,536	72,245	54,258
Washington	17,445	25	1	47,685	34,472	30,960
Wayne	43,757	99	.....	356,327	29,890	208,812
Wells	22,418	37	.....	56,265	18,342	27,820
White	17,602	33	1	51,965	24,264	29,435
Whitley	16,892	40	.....	57,500	31,563	26,300
Totals	.....	6,209	104	$27,688,421	$5,932,110	$16,091,192

TABLE VI.

FIRES OF UNKNOWN CAUSE.

Month.	Number of Losses.	Loss.
May	121	$196,238
June	176	242,793
July	245	671,497
August	220	462,319
September	207	184,549
October	182	141,954
November	176	261,831
December	161	406,721
Totals	1,488	$2,565,868

TABLE VII.

INCENDIARY FIRES.

Month.	Number of Losses.	Loss.
May	9	$7,246
June	11	13,583
July	10	10,963
August	18	15,806
September	10	9,526
October	14	12,185
November	13	5,214
December	11	5,474
Totals	104	$79,997

TABLE VIII.

STATISTICS FOR CITIES OF 4,000 OR MORE POPULATION.

City.	Population.	Number of Fires.	Loss Per Capita.	Total Value of Property.	Total Damage to Property.	Total Insurance on Property.
Alexandria	5,096	22	$1 34	$117,158	$6,842	$88,900
Anderson	22,476	88	89	297,410	20,132	172,780
Aurora	4,410	3	39	13,100	1,715	3,700
Bedford	8,716	21	96	89,070	8,410	48,275
Bloomington	8,838	58	6 04	597,008	53,354	339,840
Bluffton	4,987	14	25	19,250	1,165	9,175
Brasil	9,340	25	84	50,370	7,891	39,015
Clinton	6,229	22	1 39	79,951	8,662	51,800
Columbus	8,813	30	1 53	322,560	13,524	50,450
Connersville	7,738	15	60	167,180	4,668	73,350
Crawfordsville	9,371	29	69	90,221	6,488	50,050
Decatur	4,471	15	1 34	18,613	6,004	13,748
East Chicago	19,098	76	9 29	663,375	177,481	389,790
Elkhart	17,877	49	37	127,978	6,544	90,700
Elwood	11,028	58	2 13	229,673	23,451	137,350
Evansville	69,647	222	1 26	2,032,963	87,650	1,285,244
Ft. Wayne	63,933	95	1 05	608,923	67,340	389,695
Frankfort	8,634	28	71	91,100	6,155	51,450
Franklin	4,542	18	74	26,991	3,372	16,800
Garrett	4,149	13	1 39	33,420	5,778	11,775
Gary	16,802	90	1 60	759,675	26,950	467,350
Goshen	8,514	20	69	76,085	5,919	43,475
Greenfield	4,448	17	3 90	25,781	17,333	13,095
Greensburg	5,420	5	84	8,275	4,550	4,850
Hammond	20,925	33	2 27	284,495	47,604	213,525
Hartford City	6,187	18	5 69	101,350	35,260	110,905
Huntington	10,272	35	2 46	317,476	26,351	156,888
Indianapolis	233,650	661	4 49	6,482,366	1,048,892	4,854,056
Jeffersonville	10,412	38	63	74,675	6,024	45,350
Kendallville	4,981	10	42	35,550	2,110	18,400
Kokomo	17,010	51	3 06	327,719	52,146	357,880
Lafayette	20,081	86	1 13	601,525	22,723	154,625
Laporte	10,525	20	31	57,150	3,253	35,725
Lebanon	7,752	24	2 31	46,810	17,911	17,732
Linton	5,906	14	1 47	48,250	8,691	23,750
Logansport	19,050	75	43	310,351	8,258	181,525
Madison	6,934	16	63	54,270	4,360	22,310
Marion	19,359	42	2 05	252,480	39,735	127,877
Martinsville	4,529	23	8 72	86,459	39,478	45,470
Michigan City	19,027	48	23 73	1,247,380	451,439	824,115
Mishawaka	11,886	19	1 68	70,060	20,012	31,850
Mt. Vernon	5,563	26	1 96	93,513	10,892	27,354
Muncie	24,005	56	73	205,720	17,569	87,500
New Albany	20,629	123	12 76	437,593	263,183	327,805
New Castle	9,446	31	85	186,376	8,023	107,700
Noblesville	5,073	23	1 45	84,195	7,362	28,800
Peru	10,910	31	35	59,725	3,772	31,435
Portland	5,130	23	60	142,240	3,089	27,635
Princeton	6,648	17	1 73	39,745	11,533	25,750
Richmond	22,324	54	12	293,193	2,692	169,245
Rushville	4,925	24	27 07	200,825	133,335	63,560
Seymour	6,305	8	62	39,350	3,922	29,600
Shelbyville	9,500	14	1 55	31,555	14,682	15,205
South Bend	53,684	139	39	947,825	21,219	331,275
Sullivan	4,115	32	2 39	125,300	9,853	73,800
Terre Haute	58,157	213	1 26	755,877	73,247	440,930
Tipton	4,075	9	19	24,450	788	13,300
Valparaiso	6,987	25	2 71	121,650	17,911	74,600
Vincennes	14,895	28	78	72,242	11,615	51,650
Wabash	8,687	32	2 45	78,485	21,274	37,575
Warsaw	4,430	15	3 18	85,950	14,092	34,820
Washington	7,854	31	1 14	39,927	8,945	25,200
Whiting	6,587	3	34	26,500	2,265	10,450
Winchester	4,426	26	16 26	116,970	71,955	68,605
Totals	1,067,418	3,229	$2 88	$21,153,702	$3,139,493	$13,172,434

TABLE IX.

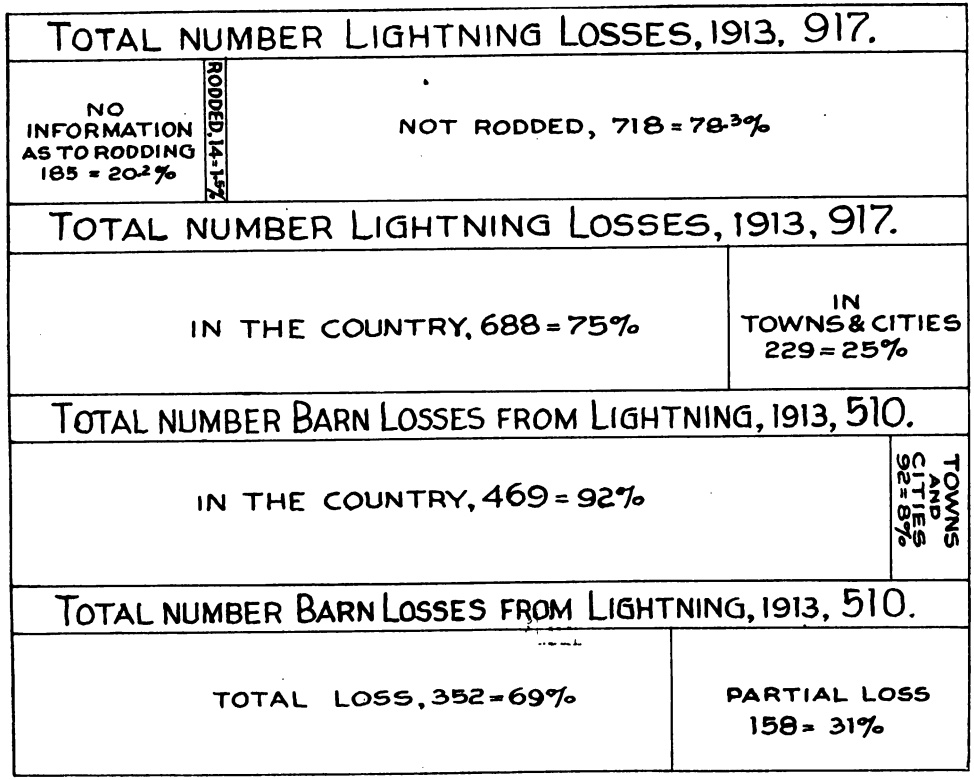
LIGHTNING STATISTICS.

Month.	Number.		Loss.	
Not rodded:				
May	11		$7,700	
June	97		79,582	
July	244		229,286	
August	317		258,217	
September	44		20,645	
October	4		1,417	
November	1		100	
Totals		718		$596,947
No information received:				
May	66		$119,670	
June	56		42,864	
July	30		25,625	
August	26		7,001	
September	4		18,467	
October	3		4,302	
Totals		185		$217,929
Rodded:				
June	2		$875	
July	4		6,205	
August	7		26,847	
September	1		3,500	
Totals		14		37,227
Grand total		917		$852,103

Property.	Total Number.	Number in Country.	Per Cent in Country.	Number in City.	Per Cent in City.
Barns*	510	469	92	41	8
Dwellings	305	158	52	147	48
Manufacturing	20	.....	.....	10	.....
Hay	23	20	.....	3	.....
Store	6	4	.....	2	.....
School	27	17	.....	10	.....
Church	14	4	.....	10	.....
Cattle and miscellaneous	101	.....	.....	.....	.....
Totals	1,006	682	75	223	25

*69% of these losses total.

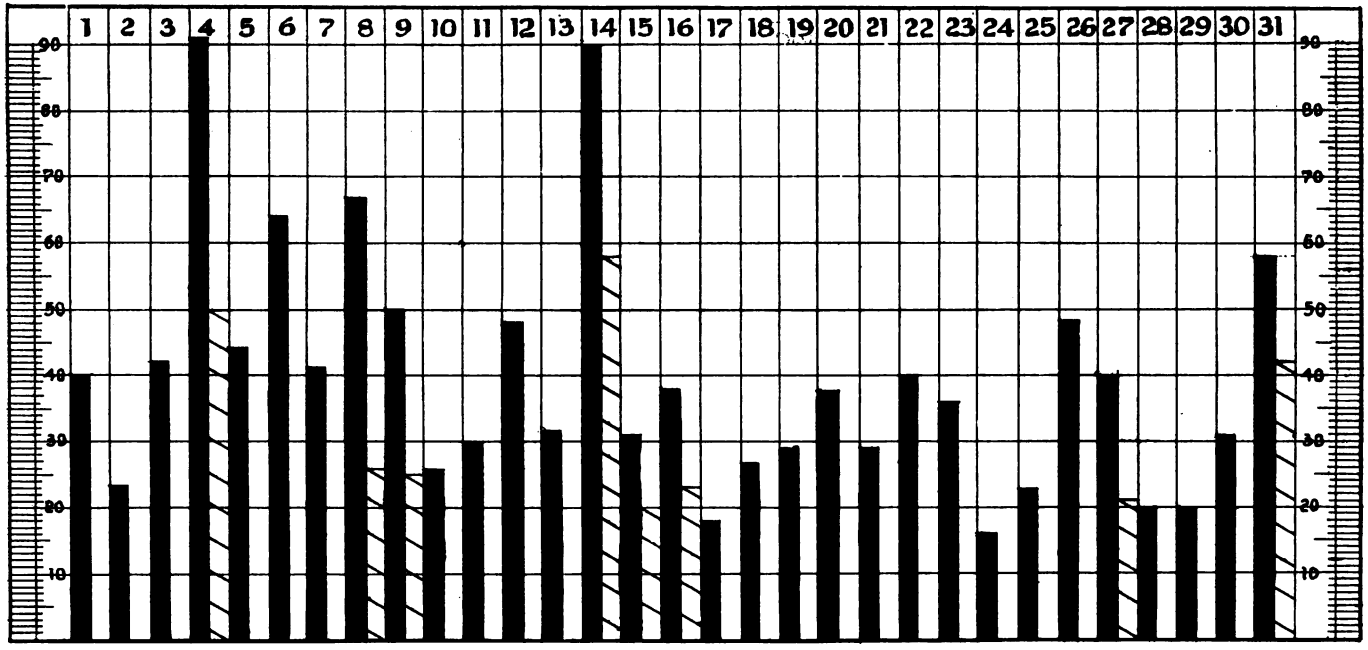
CHART TO ILLUSTRATE TABLE IX.



JULY FIRES, 1913.

Chart Showing the Number of Losses for Each Day in July.

Number of losses due to fireworks July 4th, 50. Number of losses due to lightning on July 8, 9, 14, 15, 16, 27 and 31, as shown in parallel column.

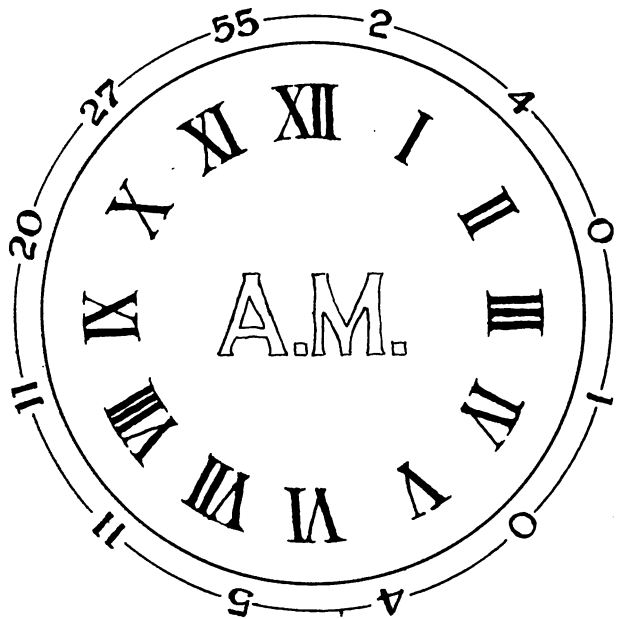


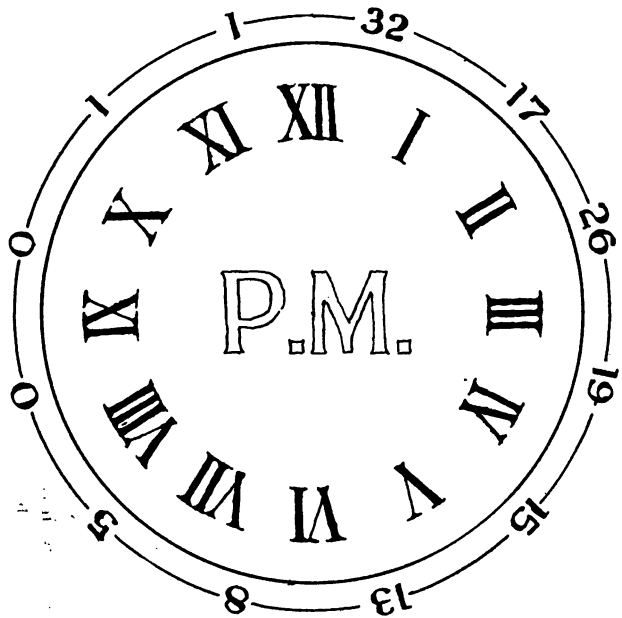
LEGEND: Number for day.

Number due to fireworks on 4th.
Number due to lightning on 8th, 9th, 14th, 15th, 16th, 27th and 31st.

SPARK FROM CHIMNEY FIRES.

Of the 1671 dwelling house fires occurring from May 1st. to October 16th., 277 were caused by sparks from the chimney alighting on the shingle roof. This was the most frequent cause of dwelling house fires. This chart shows the distribution of these 277 fires for each hour of the day. Notice the great increase between 11 and 12 a. m.





FINANCIAL REPORT

Total amount of warrants		$26,911 91
Classified as follows:		
Salaries—Fire Marshal, deputies and clerks	$11,771 87	
Transportation	1,051 79	
Hotel expense and meals	1,086 90	
Livery hire	193 35	
Telegraph and telephone	207 96	
Postage	652 47	
Freight and express	55 72	
Office supplies, printing and stationery	2,672 16	
Furniture and fixtures	1,189 21	
Stenographers	392 36	
Witness fees	69 05	
Other expense of witnesses	47 65	
Assistants' fees	2,064 40	
Officers' and detectives' fees	2,715 08	
Extradition expense	3 00	
Obtaining evidence	370 25	
Special services	2,368 69	
		$26,911 91

FIRE DRILLS IN SCHOOLS

The State Fire Marshal Law of Indiana contains the following section:

> SEC. 14. It shall be the duty of the State Fire Marshal, his deputies and assistants, to require teachers of public and private schools and educational institutions to have one fire drill each month and to keep all doors and exits unlocked during school hours.

In accordance with the provisions of this section, the following rules and regulations for fire drills are to be observed in the schools of Indiana:

1. Fire drills are practiced that panics may be averted and the children *Marched Out* rapidly and *Without Confusion.*
2. Fire drills should aim at a quick dismissal, without going for coats or hats.
3. Fire drills should be had frequently, but at irregular and secret times.
4. See that all exits open outward.
5. See that the exit facilities are sufficient and unobstructed.
6. Keep the fire escapes free from obstruction, ice and snow. Sprinkle with ashes and sand when slick.
7. Use the fire escapes frequently, both for regular dismissals and for fire drills.
8. Observe the fire drill rules so far as practicable in the regular dismissals.
9. Use a special bell for drill signals. Be sure the signal is *Distinctive.*
10. At the sound of the fire signals, all work must cease instantly. Pupils will rise and march as directed, boys leading.
11. Teachers should follow, to be sure that no child has been left behind.
12. Boys should lead and girls follow, or, if possible, separate exits should be taken. Boys often trample girls in a rush and girls are sure to be frightened at boys coming down behind them.
13. The movement of the children shall be by the shortest route and there shall be no crossing of lines.
14. Classes near stairway shall precede those further away; lower floor classes shall precede upper floor classes.
15. Fire drills should conclude with the continued march of the children out and away from the school in different directions.

W. E. LONGLEY,
State Fire Marshal.

I desire to express my hearty approval of the observance of Fire Prevention Day in the schools of Indiana, and the method of instructing the children in fire drills as outlined by our State Fire Marshal.

The result, in the preservation of property and life, that will come from these constant drills, and the instruction of the children in the matter

of preventing disastrous fires, will be far-reaching and permanent. Fire is no respecter of persons. and the loss of life among the children who have perished in the destruction of school buildings through that agency is one of the saddest things our history must record.

One day in the year is not too much to be devoted to so worthy a cause, while a portion of every day should be given over to some form of fire drill.

CHARLES A. GREATHOUSE,
State Superintendent of Public Instruction.

CITY ORDINANCE No. 1628

AN ORDINANCE CHANGING THE FIRE LIMITS WITHIN THE CITY OF KOKOMO AND DEFINING THE POWERS OF THE FIRE CHIEF.

SECTION 1. *Fire Limits.* The following shall be and are hereby declared to be the fire limits: Beginning at a point on Washington street at the intersection of Carter street therewith if Carter street were projected westward; thence north to the north bank of Wild Cat Creek; thence west 132 feet west of Washington street; thence north on a straight line to the south side of Madison street; thence east on the south line of Madison street to the center line of Main street; thence south on the center line of Main street to the center line of Jefferson street; thence east on the center line of Jefferson street to the center line of Union street; thence south on the center line of Union street to the center line of Taylor street, thence east on the center line of Taylor street 132 feet to the east side of the first alley east of Taylor street, thence south in said alley to the north side of Carter street; thence on a line to the place of beginning.

SEC. 2. No wall, structure, building or part thereof, shall hereafter be built, raised or altered until a statement of the location and materials to be used, together with a plan of the proposed work, shall have been submitted to the Chief of the Fire Department or other enforcing officer, who shall, if in accordance with the provisions herein contained, issue a permit for the proposed construction, provided that this section shall not be construed to affect coal sheds or out houses outside the fire limits.

SEC. 3. *Incombustible Walls and Roofs Required Within Fire Limits.* Every building hereafter erected or altered within the fire limits shall be enclosed on all sides with walls constructed wholly of stone, brick, Portland cement, concrete or other equivalent incombustible materials, and shall have the roof and all roof structures, including the top and sides of dormer windows covered with incomubustible material. Wooden cornices on residences shall not be permitted within the fire limits except as provided in Section 14, provided that it shall always be within the sound discretion of the Fire Chief or other enforcing officer to permit the erection of dwellings not in strict compliance with this section.

SEC. 4. *Wooden Structures which May be Permitted Within Fire Limits.* No frame nor wooden structure shall hereafter be built within the fire limits as given herein, or as they may hereafter be established, except: (a) Temporary one-story frame buildings for use of builders. (b) One-story sheds not over 15 feet high, with sides and roof covered with fire-proof material, and with an area not exceeding 2,500 square feet. A wooden fence shall not be used to form the back or side of such sheds; (c) Wooden fences not over 10 feet high; (d) Wooden signs not over 2 feet high on buildings; (e) Piazzas or balconies not to exceed 10 feet in width, nor to extend more than 3 feet above the second story floor beams, with roofs covered with fire-proof material. They shall not be joined to any piazza or balcony of another building; (f) Bay windows when covered

with incombustible material; (g) Small out houses not exceeding 150 square feet in area, and 8 feet in height; (h) Grain elevators, coal pockets; or private ice houses as usually constructed.

Within the fire limits no frame buildings more than two stories in height, now used as a dwelling shall hereafter be raised or altered to be used as a factory, warehouse or stable.

Any existing frame building within the fire limits which may hereafter be damaged by fire, decay, or otherwise to an amount greater than one-half of its value at the time of damage, shall not be repaired.

SEC. 5. *Garages.* No public garage hereafter constructed within the fire limits shall be built or occupied unless it be entirely of fire-proof material.

SEC. 6. *Limits of Height and Area.* All buildings with walls of hollow terra cotta or concrete blocks shall be limited to three stories, or not to exceed 40 feet in height; and no building hereafter erected or altered shall exceed four stories or 55 feet in height, unless it be of fire-proof construction, when it shall not exceed ten stories or 125 feet. The floor area of non-fire proof buildings between fire walls shall not exceed the following: When fronting on one street, 5,000 square feet; when fronting on two streets, 6,000 square feet; and when fronting on three streets, 7,500 square feet.

SEC. 7. *Walls.* Except as herein provided all exterior, party or division walls of buildings hereafter erected shall be of sufficient thickness to support the load to be carried; but in no case shall a brick, stone, re-enforced concrete, or hollow block wall be less than 12 inches thick, except that re-enforced concrete walls not exceeding four stories or 55 feet in height, may be 10 inches thick. In dwellings, exclusive of party or division walls, the top story may be 8 inches in thickness. Stone walls shall be four inches thicker than required for brick walls. The foundation walls of all buildings over two stories in height shall be 4 inches thicker from footing to grade than required for the remainder of the wall. All masonry walls over 1 story high shall extend their full thickness at least 2 feet above the roof surfacing of the building, and be properly coped.

The ends of all floor, ceiling or roof beams entering a wall from opposite sides shall be separated by at least 8 inches of solid masonry, such separation may be obtained by corbeling the wall or staggering the beams; or the beams may be supported by steel wall hangers; but no wall shall be corbeled for more than 4 inches. The ends of all wooden floor or roof beams which rest on, or are supported by walls, shall be cut to a bevel of 3 inches in their depth to make them self releasing.

No opening in an interior masonry wall shall exceed 8 feet by 10 feet, and all such openings shall be protected by standard automatic fire doors or self-closing steel fire doors. If the opening be in a fire wall, it shall have a standard automatic fire door on each side of the wall, or one of such doors may be replaced by a self-closing steel fire door.

SEC. 8. *Protection of Windows.* Every building except churches, dwellings, tenement houses, dormitories, hotels and lodging houses, shall have standard fire-proof shutters or wired glass in metallic frames, on every window opening above the first floor, excepting on street fronts or where no other building is within 35 feet of such opening. In all buildings all

windows more than 75 feet above the curb shall have metallic frames and sash glazed with wired glass.

SEC. 9. *Stairway and Elevator Shafts.* In buildings hereafter erected, except dwellings which are used above the first floor for business purpose, or for public assemblage, or for any purpose whatever, if over three stories high, shall have all stair or elevator shafts separately enclosed by incombustible partitions. The partitions shall be constructed of brick or other fire-proof material approved by the Chief of Fire Department or other enforcing officer. No such partition shall be less than 6 inches thick. There shall be no windows opening from the interior into such shafts, and the door openings shall be protected by fire-proof doors. If glass panels be used in such doors, they shall be of wired glass not exceeding 720 square inches in area.

Stair, elevator or hoistway shafts in all existing buildings of the class described in this section shall be separately enclosed either by fire-proof partitions as above specified, or by 4 inch stud partitions, covered on each side with ¾ inches of cement plaster on metal lath, and fire-stopped with incombustible material at each floor level; or they may be enclosed with two thicknesses of matched boards forming a solid partition not less than 1½ inches thick.

All door openings in such enclosures shall be protected by fire-proof doors, or the doors may be made of double matched boards with total thickness of not less than 1½ inches. The doors shall be mounted with wrought-iron or steel hardware and be self-closing. Interior shaft windows shall not be permitted.

If in the opinion of the Chief of Fire Department or other enforcing officer it is necessary to preserve an open stairway, elevator or hoistway in existing buildings, the floor openings through which they pass shall be equipped with automatically closing trap doors 1½ inches thick, made of two thicknesses of matched boards, covered on the under side with tin; the trap doors, when closed, shall extend beyond the opening on all sides.

Note: It is urged that all fire doors, windows, shutters and similar devices required by the provisions of this ordinance shall be of a manufacture which has been tested and approved by the underwriters.

Where stairway, elevator or dumb waiter shafts extend through the roof and are covered by skylight, the skylight shall be constructed of metal frames and sash, glazed with ordinary thin glass and shall be protected by galvanized steel wire screens with a mesh not exceeding one inch. The screen shall have metal supports and be placed not less than 6 inches above the skylight.

SEC. 10. *Light and Vent Shafts.* In every building hereafter erected or altered, all the walls and partitions forming interior light or vent shafts shall be built in accordance with the requirements for stair and elevator shafts in new buildings as specified in section 9.

In frame buildings outside of the fire limits, such shafts may be constructed of 4-inch wooden studs filled in solid with fire-proof material; or metal lath may be attached to the studs and be covered on either side with a ¾-inch coat of cement plaster, with masonry fire-stops at each floor.

The walls of light or vent shafts hereafter erected shall be carried

up not less than three feet above the level of the roof. Masonry walls shall be properly coped.

When a shaft is covered by a ventilating skylight of metal and glass, the walls need not be carried more than two feet above the roof. When metal louvres are used for ventilating purposes, the louvres or slats shall be riveted to the metal frame.

SEC. 11. *Roofing.* All openings in roofs for the admission of light or air, other than those provided for in sections 9 and 10, shall have metal frames and sash glazed with wire glass; or ordinary glass may be used, if protected above and below with galvanized wire screens of not less than No. 12 wire, and not more than one inch mesh.

SEC. 12. *Exits Required.* Every factory or workshop over two stories in height shall be provided with at least two means of egress remote from each other, and no portion of any floor of such factory or workshop shall be more than 100 feet from a place of egress.

Where more than fifty people are permitted to assemble on any floor above the first in any public hall, lodge hall or club; or where more than seventy-five people are employed on any floor above the first of any factory or workshop, two distinct stairways remote from each other shall be provided.

All school buildings over one story high shall have at least two stairways, located as far apart as possible, and continuous from grade line to the topmost story.

Except in dwellings, no stairways shall be less than 42 inches wide. In schools and hospitals the total width of stairway provided shall be in the ratio of 3 feet per 100 people accommodated. In other buildings the ratio shall be 20 inches per each 100 people in each floor and those above. The stair treads shall not be less than 10 inches wide, and the risers not more than 7¾ inches high. Winders in such stairways are prohibited.

SEC. 13. *Fire Stops.* All stud walls, partitions, furrings, stair carriages and spaces between joists in all buildings hereafter erected, shall be fire-stopped in a manner to completely cut off communications of fire through concealed spaces.

SEC. 14. *Construction of Frame Buildings.* No frame building, hereafter erected or altered within the fire limits shall exceed two stories in height, except that private dwellings may be three stories high. Every building hereafter erected must have a roof covering of incombustible material, and no existing roof, if damaged more than 50 per cent., shall be renewed or repaired with other than incombustible material.

In no case shall a frame building be erected within 3 feet of the site or rear lot line, nor within 6 feet of another building, unless the space between the studs on each side be filled solidly with not less than 2½ inches of brickwork or other equivalent fire-proof material.

In rows of frame houses, the dividing partitions between houses shall be built with 4-inch studs, filled in solid with 4 inches of brickwork laid in mortar, or with other incombustible material. Such dividing partitions shall rest on masonry walls and shall be carried to under side of roof boards. Where it is impracticable to build a dividing partition with masonry, filling a 4-inch stud partition filled in solid with mineral wool held

in position by blocks every three feet in height, and plastered on both sides with cement plaster or metal lathing, may be used, at the discretion of the Chief of Fire Department or other enforcing officer. In rows of more than three houses, every alternate division wall shall be constructed of solid brickwork not less than 8 inches in thickness.

Outside of the fire limits, when any building is to be erected of brick, stone or hollow block, or concrete that could under this ordinance be constructed of wood, the Chief of Fire Department or other enforcing officer is hereby authorized and directed to allow reasonable modifications of this ordinance relating to brick buildings, in consideration of the use of incombustible material instead of wood.

SEC. 15. *Moving of Buildings.* No frame building shall be moved from without to within the fire limits.

No building shall be moved from one lot to another, until a permit has been obtained from the Chief of Fire Department or other enforcing officer; and such officer shall not issue such permit if in his judgment the proposed new location of the building would seriously increase the fire hazard of the surrounding buildings.

SEC. 16. *Chimneys and Fireplaces.* In any building hereafter erected, altered or repaired all chimneys shall be built of brick, stone or concrete. All chimneys shall have walls at least four inches thick and be lined on the inside with well burnt terra cotta chimney tile set in Portland cement mortar. The lining shall be continuous from the bottom of the flue to its extreme height.

Chimneys of all low pressure boilers or furnaces used in hotels or other large buildings, also the smoke flue for bakers' ovens, large cooking ranges and laundry stoves, and all flues used for similar purposes shall be at least 8 inches in thickness and be lined continuously on the inside with well burnt terra cotta chimney tile set in Portland cement mortar. All such chimneys shall be capped with terra cotta, stone, concrete or cast iron.

All chimneys shall project at least 3 feet above the point of contact with a flat roof, or two feet above the ridge of a pitched roof.

No chimney in any building shall have wooden supports of any kind, but shall be wholly supported by stone, brick or iron, starting from the foundation; and all chimneys which are dangerous from any cause shall be repaired and made safe, or taken down.

All wooden beams or framework shall be separated at least 2 inches from the chimney, and no wooden furring shall be placed against any chimney; the plastering shall be directly on the masonry or on metal lathing.

The fireback of all fireplaces hereafter erected shall be not less than 8 inches in thickness of solid brickwork, nor less than 12 inches if of stone. When a grate is set in a fireplace, a lining of firebrick at least 2 inches in thickness shall be added to the fire-back; or soapstone, tile or cast iron may be used, if filled solidy behind the fire-proof material.

SEC. 17. *Smoke and Heater Pipes.* No smoke pipe shall be placed nearer than 9 inches to any woodwork, or to any wooden lath and plaster partition or ceiling.

Where smoke pipes pass through a wooden lath and plaster partition they shall be guarded by galvanized iron ventilated thimbles at least 12

inches larger in diameter than the pipes, or by galvanized iron thimbles built in at least 8 inches of brickwork.

No smoke pipe shall pass through any floor or the roof of any building.

All heater pipes from hot air furances where passing through partitions or floors must be doubled tin pipes with at least ½ inch air space between them. No steam or hot water pipes shall be nearer than 1 inch to any woodwork. Every steam or hot water pipe passing through combustible doors, or ceilings, or wooden lath and plaster partitions shall be protected by a metal tube one inch larger than the pipe. All wooden boxes or castings enclosing steam or hot water heating pipes, or wood covers to recesses in walls in which steam or hot water heating pipes are placed, shall be lined with metal.

SEC. 18. *Stoves and Ranges.* No kitchen range, furnace or stove in any building shall be placed closer than 10 inches to any wall. Cooking ranges without legs shall have asbestos or metal shields under them. Connections to gas stoves, heaters or ranges shall be made by metal pipes.

SEC. 19. *Ashes and Refuse Material.* All ashes, oily rags, or cotton waste shall be kept in incombustible receptacles.

It shall be unlawful for any person, firm, corporation, their agent, servant, representative or employe, to permit combustible rubbish of any character to accumulate in quantity in any building, yard, alley or other place so as to increase the fire danger. The accumulation of such rubbish is hereby declared to be a nuisance; and it shall be the duty of the Fire Chief or any police officer to see that such nuisances are removed immediately after discovery, using summary measures, if necessary, to effect immediate removal.

SEC. 19½. No building shall hereafter be erected within the corporate limits of the city of Kokomo, closer than 100 feet to any factory building engaged in operating its factory, unless a permit be granted by the Chief of Fire Department of the city of Kokomo.

SEC. 20. *Fire Marshal and Duties.* The Chief of the Fire Department or other enforcing officer shall be ex officio Fire Marshal, and he is hereby authorized and empowered:

First: To enforce all orinances relating to the construction, management and condition of mercantile and other property within said city.

Second: To supervise the construction or reconstruction of all buildings.

Third: To take summary action in enforcing ordinances pertaining to the removal of rubbish in streets, alleys and yards.

The Fire Marshal shall report to the Mayor and City Council monthly regarding the condition of the city as to all matters referring to fire prevention.

SEC. 21. *Penalty for Violations.* Any and all persons who shall violate any of the provisions of this ordinance or fail to comply therewith, or who shall violate, or fail to comply with any order or regulation made thereunder; or who shall build in violation of any detailed statement of specifications or plans submitted or approved thereunder, or any certificate or permit issued thereunder; shall severally for each and every violation and noncompliance respectively be fined in an amount not less than one ($1.00)

dollar, nor more than twenty-five ($25.00) dollars for each separate offense.

SEC. 22. *Conflicting Ordinances Repealed.* All ordinances and parts of ordinances in conflict herewith are hereby repealed.

SEC. 23. *Date of Effect.* This ordinance shall take effect and be in force from and after its passage and legal publication.

Duly presented to and approved by me this fourth day of December, 1913.

J. L. PUCKETT, Mayor.

BEN HAVENS, City Clerk.

AN ORDINANCE

Providing for the Care and Inspection of Premises by the Fire Department to Safeguard the Public and Property Against Fire Loss.

Be it Ordained by the..... of the city of .....

SECTION 1. It shall be the duty of the Chief of the Fire Department to inspect or cause to be inspected by fire department officers or members, as often as may be necessary, but not less than twice a year in outlying districts and four times a year in the closely built portions of the city, all buildings, premises and public thoroughfares, except the interiors of private dwellings, for the purpose of ascertaining and causing to be corrected, any conditions liable to cause fire, or any violations of the provisions or intent of any ordinance of the city affecting the fire hazard. And for the purpose of making such inspections the Chief of the Fire Department or any member thereof is hereby empowered and authorized at any and all reasonable times to enter upon and into any of the aforesaid buildings and premises except private dwellings.

Whenever the Chief of the Fire Department or any officer or member thereof shall find any building or other structure which for want of repairs, or by reason of age or dilapidated condition or for any other cause, is especially liable to fire, and which is so situated as to endanger other property, and whenever any officer or member shall find in any building or upon any premises or other place, combustible or explosive matter or dangerous accumulations of rubbish or of unnecessary accumulations of waste paper, boxes, shavings or any other highly inflammable materials, especially liable to fire, and which is so situated as to endanger property, or shall find obstructions to or on fire-escapes, stairs, passageways, doors, windows, etc., liable to interfere with the operations of the fire department, or egress of occupants, in case of fire, he or they shall order the same to be removed or remedied and such order shall forthwith be complied with by the owner or occupant of such premises or buildings, subject to appeal within twenty-four hours to the Mayor, who shall within ten days review such order and file his decision thereon, and unless the order is revoked or modified it shall remain in full force and be obeyed by such owner or occupant.

Any owner or occupant failing to comply with such order within ten days after said appeal shall have been determined, or, if no appeal is taken, then within ten days after the service of the said order, shall be liable to a penalty as hereinafter stated.

SEC. 2. The service of any such order shall be made upon the occupant of the premises to whom it is directed by either delivering a true copy of same to such occupant personally or by delivering the same to and leaving it with any person in charge of the premises, or in case no such person is found upon the premises by affixing a copy thereof in a conspicuous place on the door to the entrance of the said premises; whenever it may be necessary to serve such an order upon the owner of premises, such order may be served either by delivering to and leaving with the said person o